

CLAIM AMENDMENTS

---

WHAT IS CLAIMED IS:

This listing of the claims will replace all prior versions, and listing, of claims in the application:

1. (Currently Amended) A method for detaching a frozen charge—(5) from the inner wall of a grinding pipe—(1), comprising the steps of:

- controlling the drive device—(2) of the grinding pipe (1) ~~being controlled~~ for targeted detachment of the frozen charge—(5),

- varying angle of rotation—( $\phi$ ) and speed of rotation of the grinding pipe—(1) ~~being varied~~ by the drive device—(2), characterized in that and

- setting the angle of rotation—( $\phi$ ) ~~is set~~ to oscillate about at least one predetermined angle of rotation—( $\phi_1$ ,  $\phi_2$ ).

2. (Currently Amended) The method ~~as claimed in~~ according to claim 1, ~~characterized in that wherein~~ a maximum value of the angle of rotation—( $\phi$ ) smaller than 180° is not exceeded.

3. (Currently Amended) The method according to claim 1, wherein as claimed in claim 1, characterized in that a maximum value of the angle of rotation—( $\phi$ ) smaller than or equal to 90° is not exceeded.

4. (Currently Amended) The method according to claim 1, wherein as claimed in one of claims 1 to 3, characterized in that the maximum value of the angle of rotation—( $\phi$ ) is dependent on the material nature of the frozen charge—(5).

5. (Currently Amended) The method according to claim 1,  
wherein as claimed in one of claims 1 to 4, characterized in  
~~that~~ the angle of rotation ~~( $\phi$ )~~ is set to oscillate about a  
number of predetermined angles of rotation ~~( $\phi_1$  or  $\phi_2$ )~~ with the  
same sign one after another.

6. (Currently Amended) The method according to claim 5,  
wherein as claimed in claim 5, characterized in that the angle  
of rotation ~~( $\phi$ )~~ is set to oscillate about a number of  
predetermined angles of rotation ~~( $\phi_1, \phi_2$ )~~ with different signs  
one after another.

7. (Currently Amended) The method according to claim 1,  
wherein as claimed in one of the preceding claims,  
~~characterized in that~~ the grinding pipe ~~(1)~~ is braked abruptly  
at least once at a predetermined angle of rotation ~~( $\phi$ )~~.

8. (Currently Amended) The method according to claim 7,  
wherein as claimed in claim 7, characterized in that the  
grinding pipe ~~(1)~~ is braked abruptly to a standstill.

9. (Currently Amended) The method according to claim 1,  
wherein as claimed in one of the preceding claims,  
~~characterized in that~~ the same motor is used for detaching the  
frozen charge ~~(5)~~ as for rotating the grinding pipe ~~(1)~~ during  
grinding operation.

10. (Currently Amended) The method according to claim 1,  
wherein as claimed in one of the preceding claims,  
~~characterized in that~~ the frozen charge ~~(5)~~ is wetted.

11. (Currently Amended) A control device—(3) for the drive device—(2) of a grinding pipe—(1) for comprising: carrying out a method as claimed in one of the preceding claims

- a controller controlling the drive device of the grinding pipe for targeted detachment of a frozen charge, the controller comprising:

- means for varying an angle of rotation and speed of rotation of the grinding pipe, and

- means for setting the angle of rotation to oscillate about at least one predetermined angle of rotation.

12. (Currently Amended) The control device—(3) as claimed in~~in~~according to claim 11, characterized in that comprising ~~it has~~ means for defining an operating cycle for the grinding pipe (1).

13. (Currently Amended) The control device according to claim 11, comprising (3) ~~as claimed in claim 11 or 12, characterized in that it has~~ a field-oriented regulating arrangement.

14. (Currently Amended) A drive device—(2) for a grinding pipe—(1) with comprising a control device—(3) as claimed in ~~one of claims 11 to 13~~claim 11.

15. (Currently Amended) The drive device—(2) as claimed in~~in~~according to claim 14, characterized in that comprising~~it has~~ a motor which drives the grinding pipe—(1) both during grinding operation and for detaching the frozen charge—(5).

16. (Currently Amended) The drive device according to claim 15, wherein ~~(2) as claimed in claim 15, characterized in that~~ the motor is coupled to a converter.

17. (Currently Amended) The drive device according to claim 14, wherein ~~(2) as claimed in claim 15 or 16, characterized in that~~ the motor is a ring motor.

18. (Currently Amended) A tube mill ~~with~~ comprising a grinding pipe ~~(1) and with~~ a drive device ~~(2) as claimed in one of claims 14 to 17~~ according to claim 14.